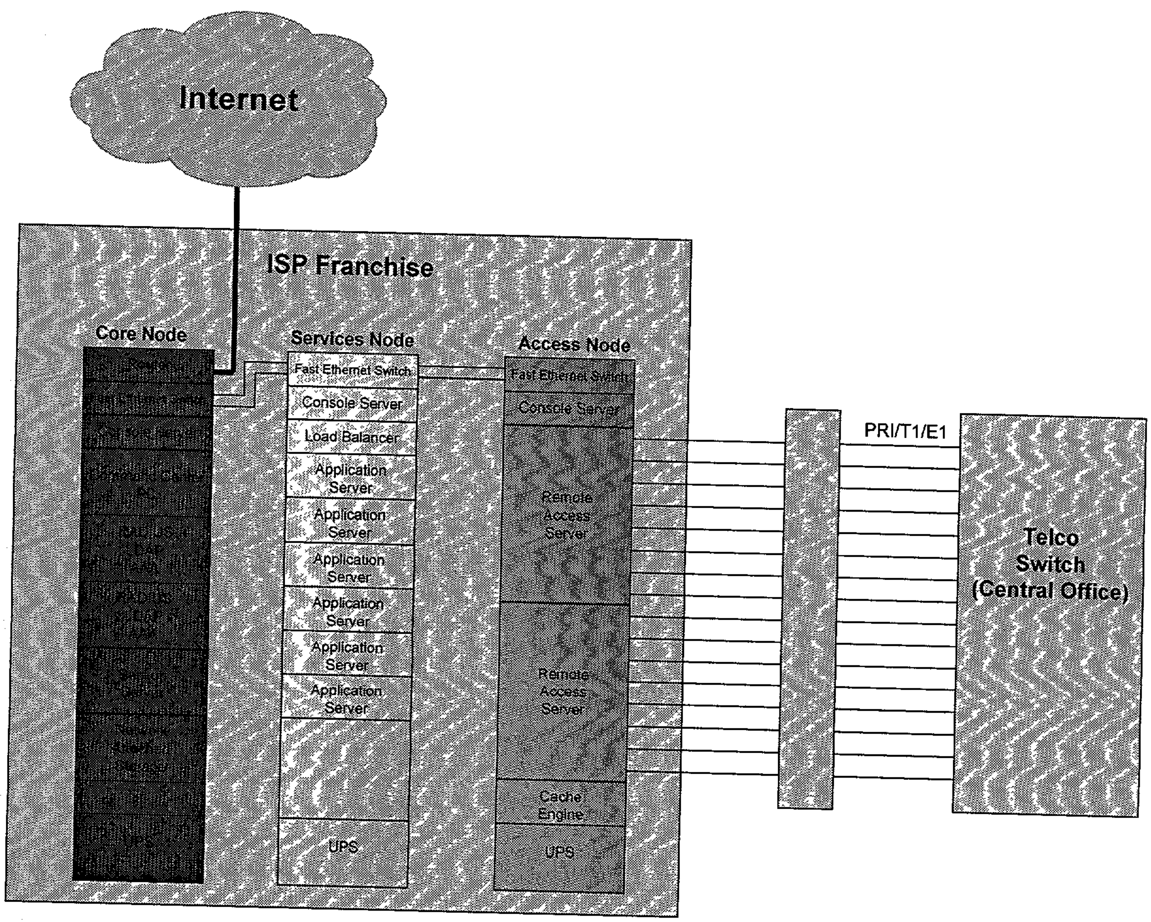
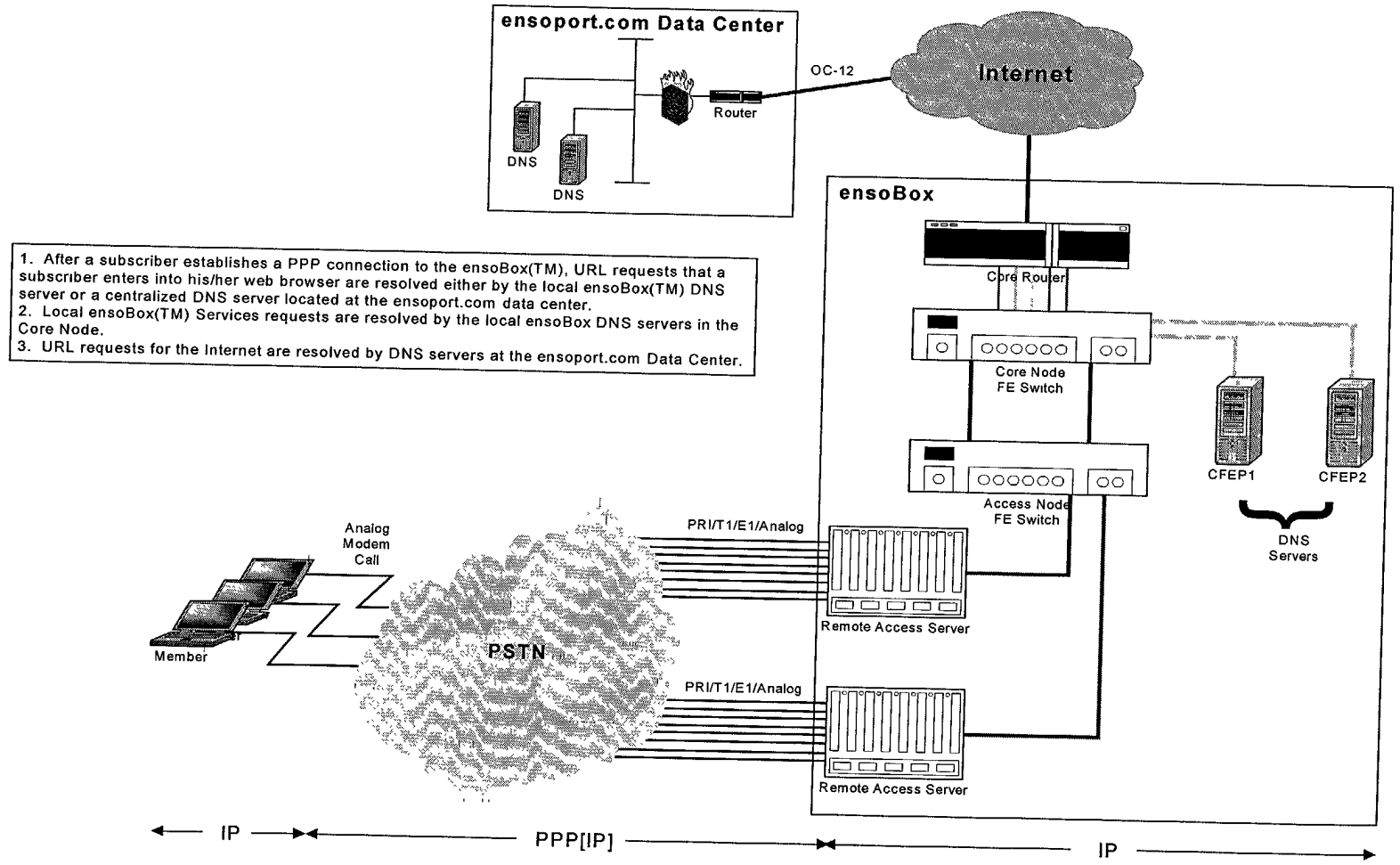
FIGURE 1



Internet
ISP Franchise
Core Node
Services Node
Access Node
Fast Ethernet Switch
Console Server
Load Balancer
Application Server
Application Server
Application Server
Application Server
Application Server
Application Server
UPS
Fast Ethernet Switch
Console Server
Remote Access Server
Remote Access Server
Cache Engine
UPS
PRI/T1/E1
Telco Switch (Central Office)

FIGURE 2



1. After a subscriber establishes a PPP connection to the ensoBox(TM), URL requests that a subscriber enters into his/her web browser are resolved either by the local ensoBox(TM) DNS server or a centralized DNS server located at the ensoport.com data center.
2. Local ensoBox(TM) Services requests are resolved by the local ensoBox DNS servers in the Core Node.
3. URL requests for the Internet are resolved by DNS servers at the ensoport.com Data Center.

FIGURE 3

1. A subscriber attempts to establish a modem connection from his/her PC to the ensoBox(TM).
2. The subscriber dials the ensoBox(TM) modem phone number using standard dialer software installed on his/her PC to request a connection with the ensoBox(TM)'s Cisco AS5300 Remote Access Server (RAS).
3. The subscriber enters a valid userid/password into the dialer then initiates a call to the ensoBox(TM). The userid/password is sent to the ensoBox(TM) over the PSTN via PAP.
4. The ensoBox(TM) RAS accepts the incoming call via PRI, T1, E1, or analog phone lines.
5. The ensoBox(TM) RAS forwards the userid/password to the RADIUS server.
6. The RADIUS server forwards the userid/password to the LDAP server (where the database of all valid subscribers' userids/passwords reside).
7. If the userid/password matches one stored in the LDAP server, then the LDAP server returns authorization for connection to the ensoBox(TM) back to the RADIUS server. The RADIUS server passes on the subscriber's service privileges to the subscriber's PC.
8. If authorized, the subscriber establishes a PPP connection between his/her PC and the RAS.
9. The RADIUS server collects accounting records (user, call start time, call end time) that will be used for billing the subscriber each month.
10. If the subscriber is not valid, the connection between the subscriber's PC and the RAS is terminated and no accounting records are recorded. The subscriber must attempt another session by re-dialing the ensoBox(TM).

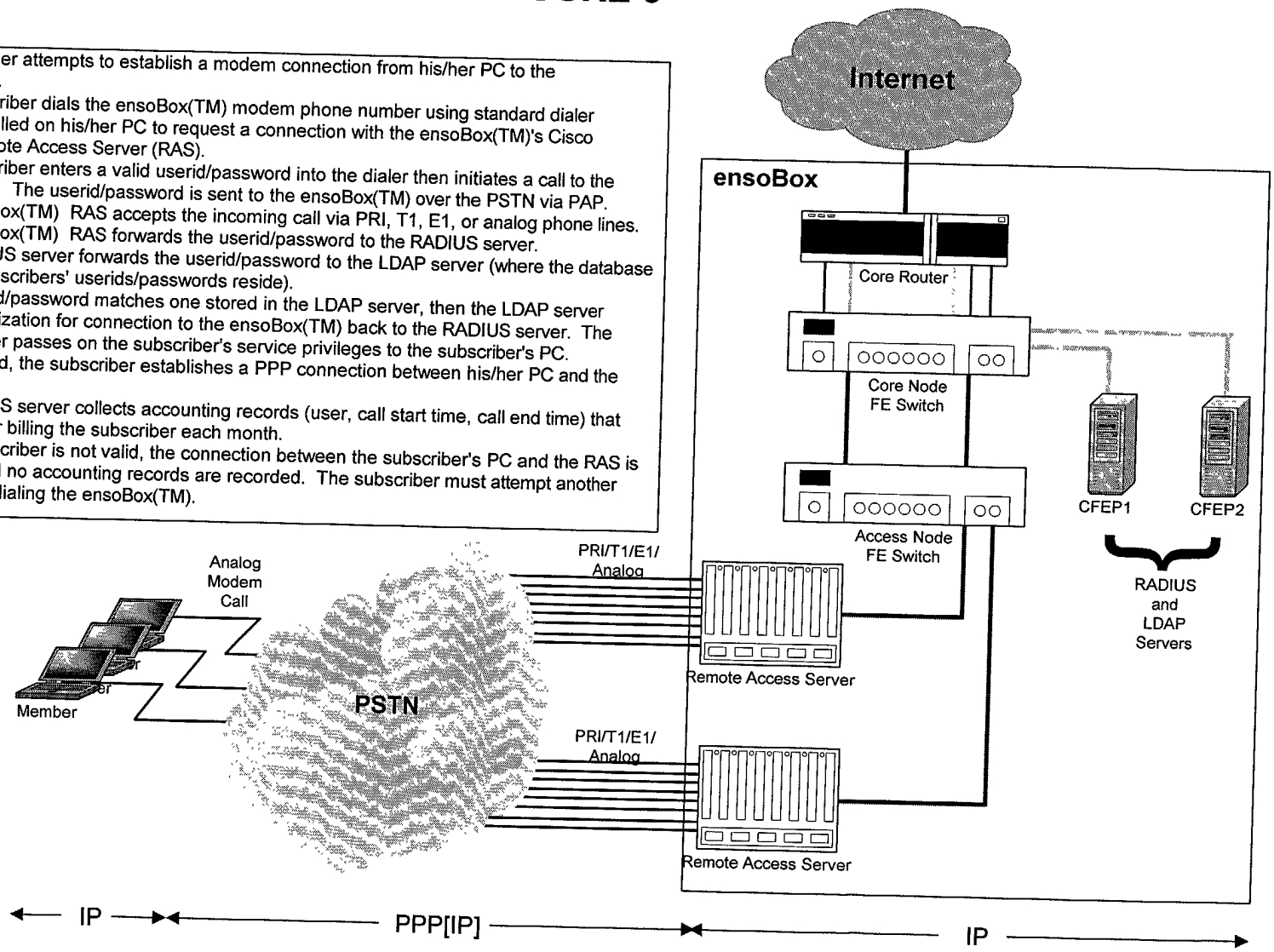


FIGURE 4

1. After a subscriber establishes a PPP connection to the ensoBox(TM), he can access ensoServices from his web browser.
2. Authorization to different services is controlled by the LDAP server.
3. Services run on a minimum of two (2) out of six (6) Tatung application servers (SFEPs) for redundancy.
4. Service requests are routed to the Core Router, which in turn routes the request to the Load Balancer.
5. The Load Balancer receives the request and routes the request to the appropriate server (SFEP). Application servers are selected based on processing load and current number of simultaneous sessions already established to the server.
6. After an application server is selected, the subscriber is requested to authenticate with the selected service (email, chat, news, etc.) by entering a userid/password
7. The application server forwards the userid/password to the LDAP server, which compares it to the userid/passwords in its database
8. If the userid/password is valid, the subscriber is connected to the application server, otherwise the connection is terminated.
9. Subscriber data is stored on the Network Attached Storage (NAS) device in the Core Node.
10 All Internet requests are re-routed to the cache engine first and served by the cache engine back to the subscriber. If the data on the cache engine is outdated or the cache server engine not contain the data, then the request is forwarded to the Internet.

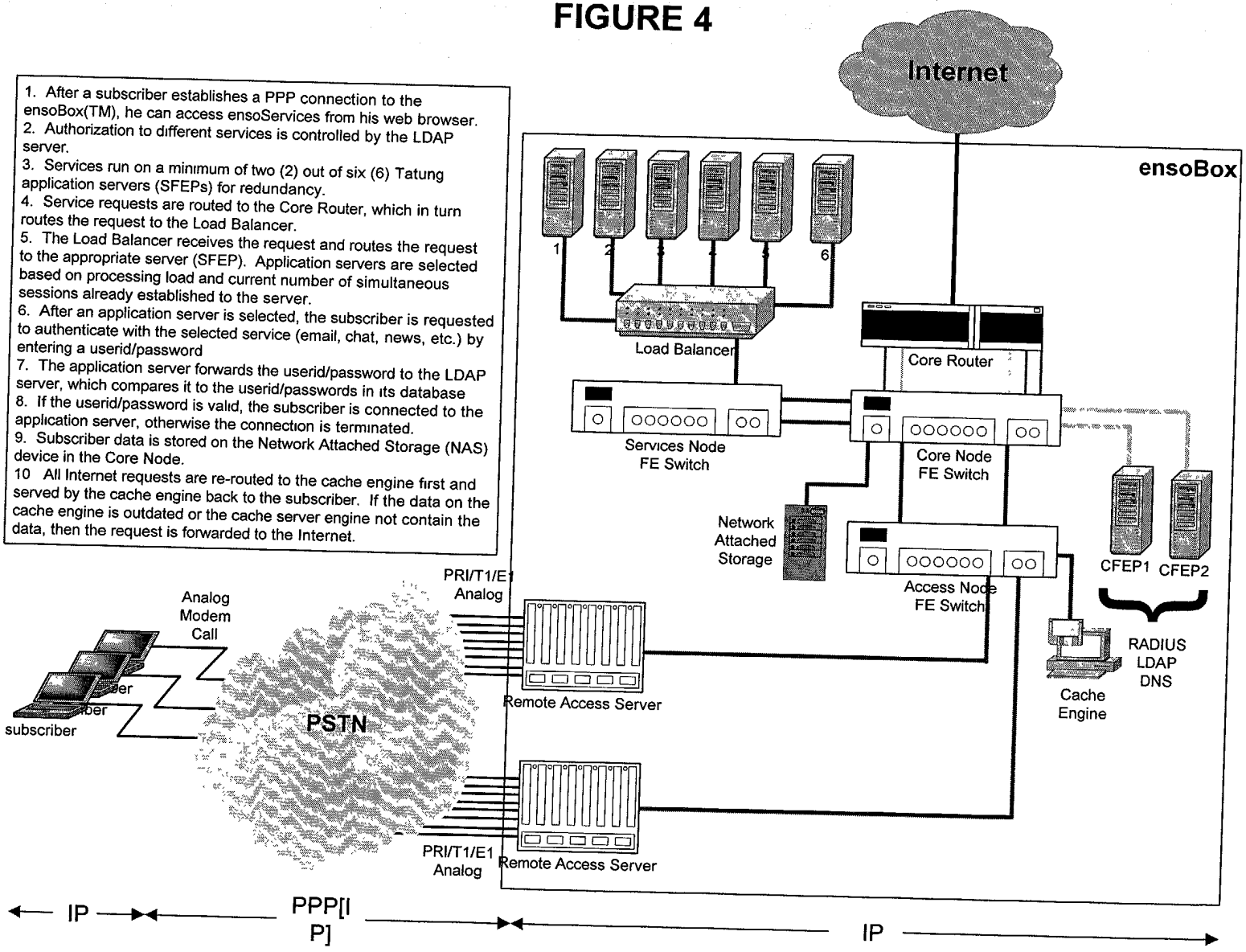


FIGURE 5

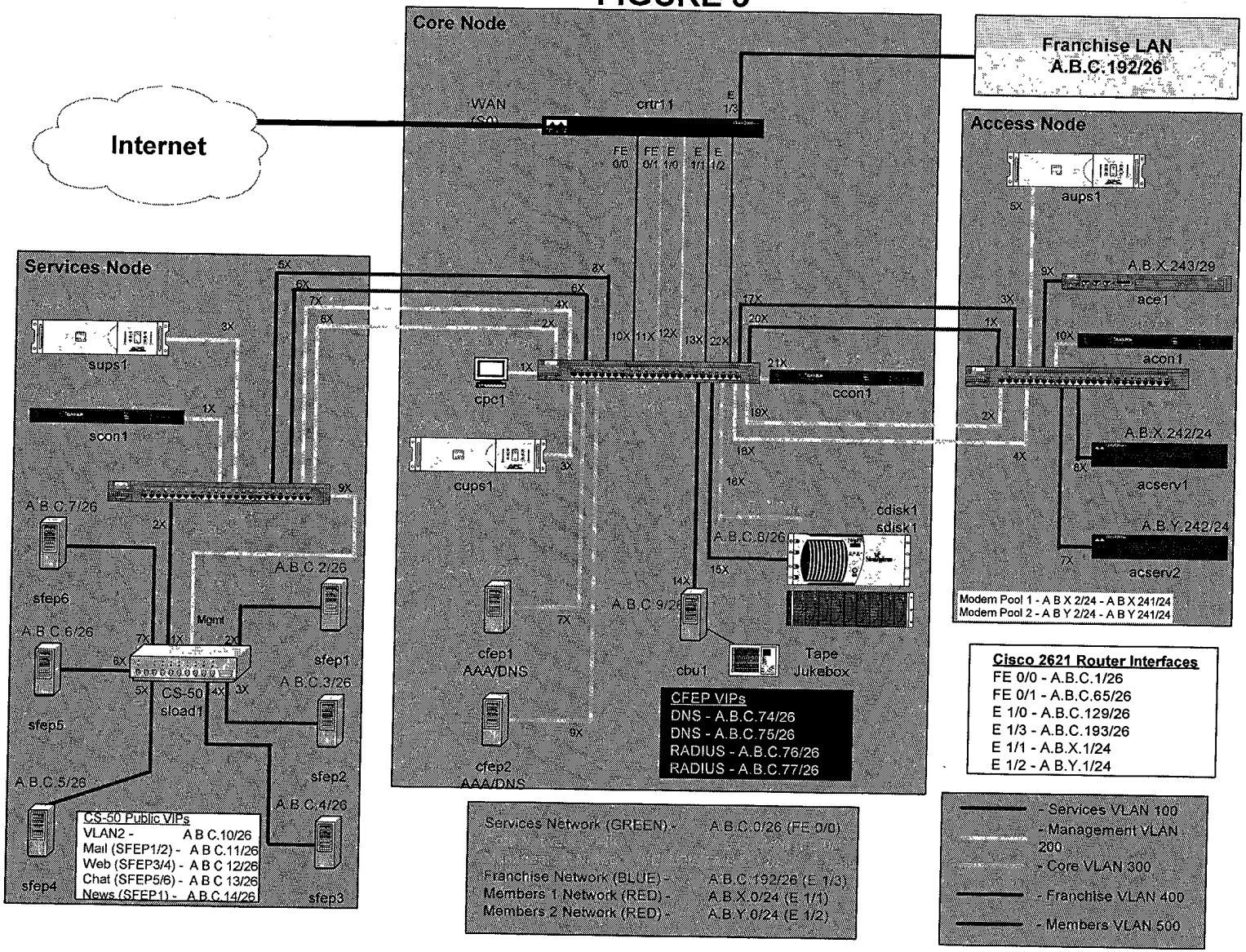

Internet
Core Node
WAN
crtr11
FE 0/0
FE 0/1
E 1/0
E 1/1
E 1/2
E 1/3
Franchise LAN
A.B.C.192/26
Access Node
aups1
A.B.X.243/29
ace1
acon1
A.B.X.242/24
acserv1
A.B.Y.242/24
acserv2
Modem Pool 1 - A B X 2/24 - A B X 241/24
Modem Pool 2 - A B Y 2/24 - A B Y 241/24
Services Node
sups1
scon1
A.B.C.7/26
sfep6
A.B.C.6/26
sfep5
A.B.C.5/26
sfep4
A.B.C.2/26
Mgmt
CS-50
sload1
sfep1
A.B.C.3/26
sfep2
A.B.C.4/26
sfep3
CS-50 Public VIPs
VLAN2 - A B C.10/26
Mail (SFEP1/2) - A B C.11/26
Web (SFEP3/4) - A B C 12/26
Chat (SFEP5/6) - A B C 13/26
News (SFEP1) - A.B.C.14/26
cpc1
ccon1
cups1
cdisk1
sdisk1
A.B.C.8/26
A.B.C.9/24
cfep1
AAA/DNS
cfep2
AAA/DNS
cbu1
Tape
Jukebox
CFEP VIPs
DNS - A.B.C.74/26
DNS - A.B.C.75/26
RADIUS - A.B.C.76/26
RADIUS - A.B.C.77/26
Cisco 2621 Router Interfaces
FE 0/0 - A.B.C.1/26
FE 0/1 - A.B.C.65/26
E 1/0 - A.B.C.129/26
E 1/3 - A.B.C.193/26
E 1/1 - A.B.X.1/24
E 1/2 - A B.Y.1/24
Services Network (GREEN) - A.B.C.0/26 (FE 0/0)
Franchise Network (BLUE) - A.B.C.192/26 (E 1/3)
Members 1 Network (RED) - A.B.X.0/24 (E 1/1)
Members 2 Network (RED) - A.B.Y.0/24 (E 1/2)
- Services VLAN 100
- Management VLAN 200
- Core VLAN 300
- Franchise VLAN 400
- Members VLAN 500

FIGURE 6

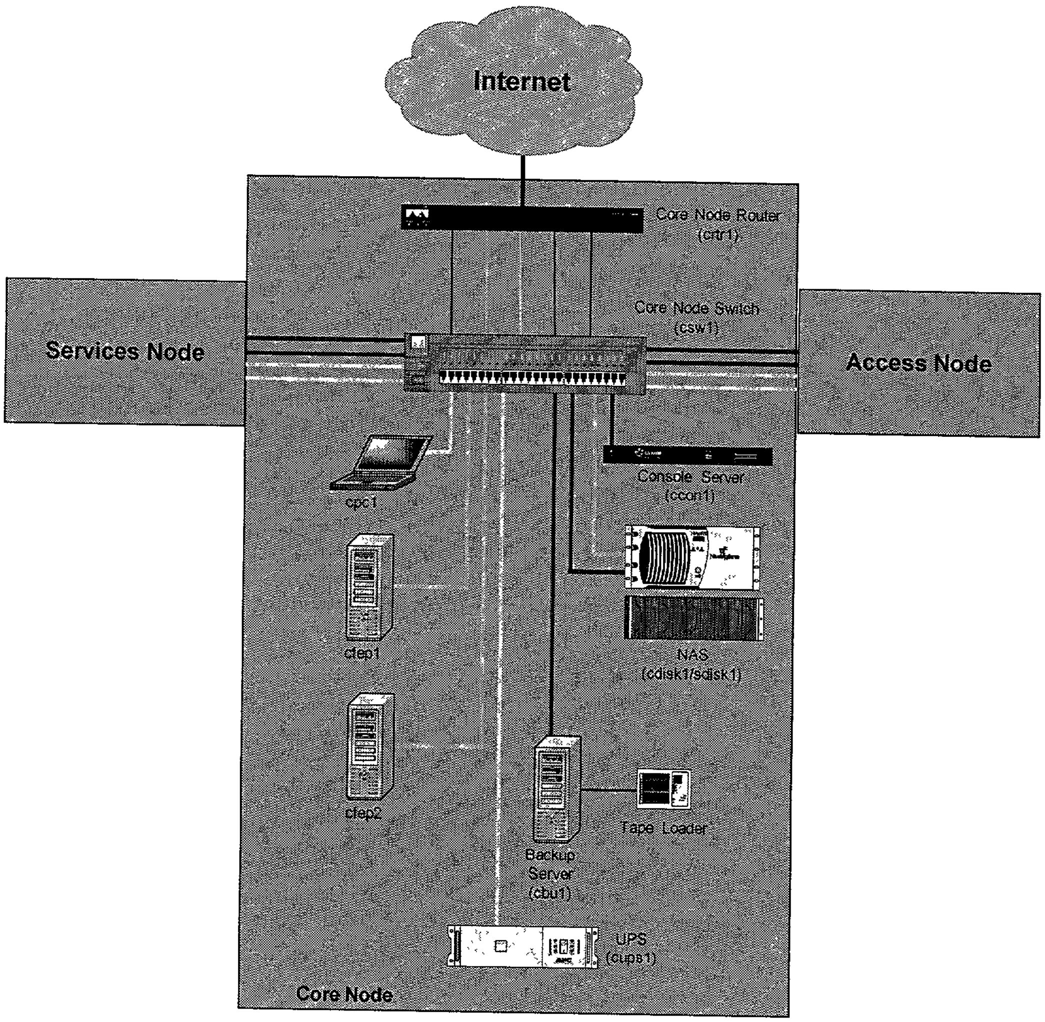

Internet
Core Node Router
(crtr1)
Core Node Switch
(csw1)
Services Node
Access Node
cpc1
Console Server
(ccon1)
cfep1
NAS
(cdisk1/sdisk1)
cfep2
Tape Loader
Backup
Server
(cbu1)
UPS
(cups1)
Core Node

FIGURE 7

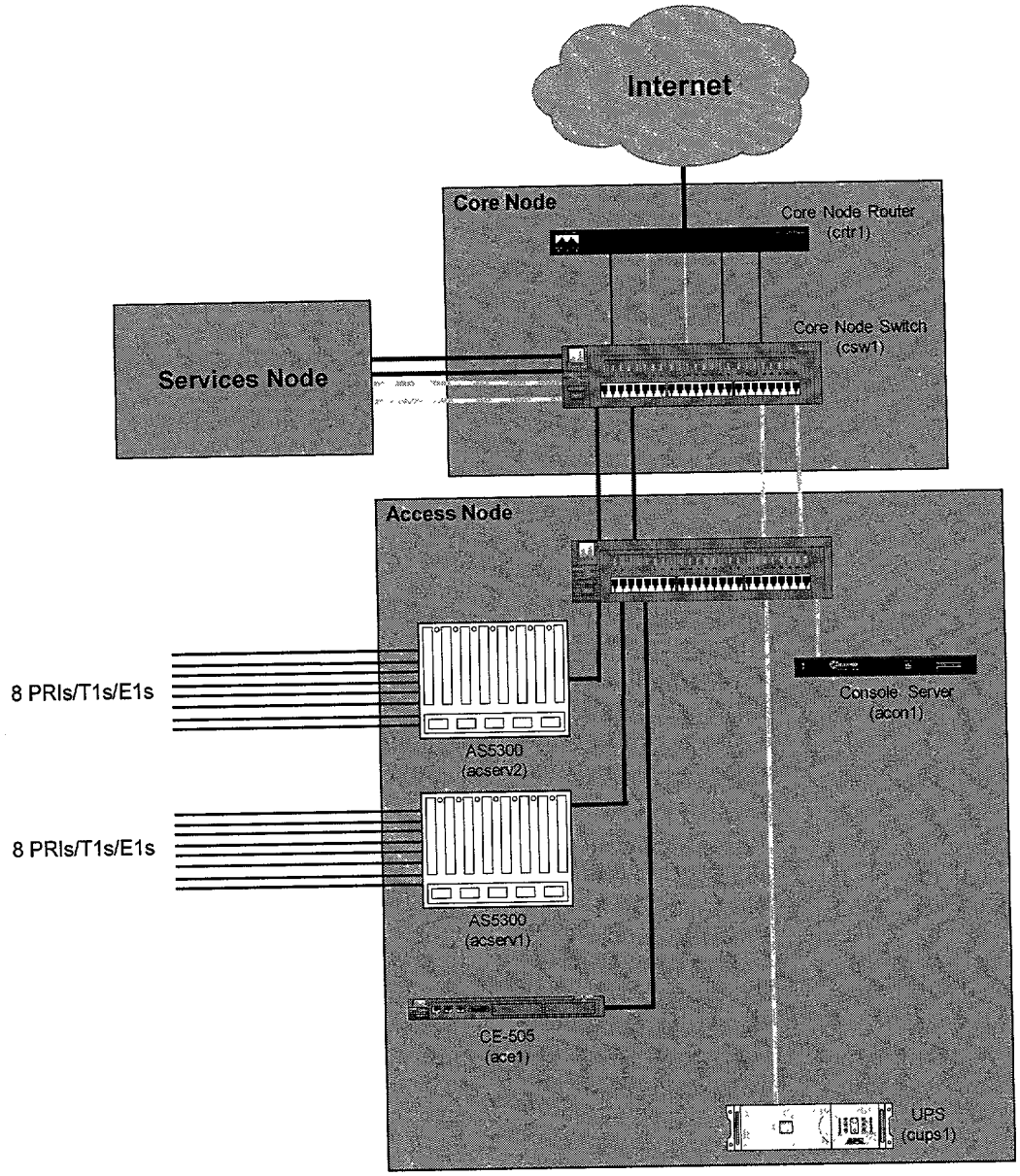
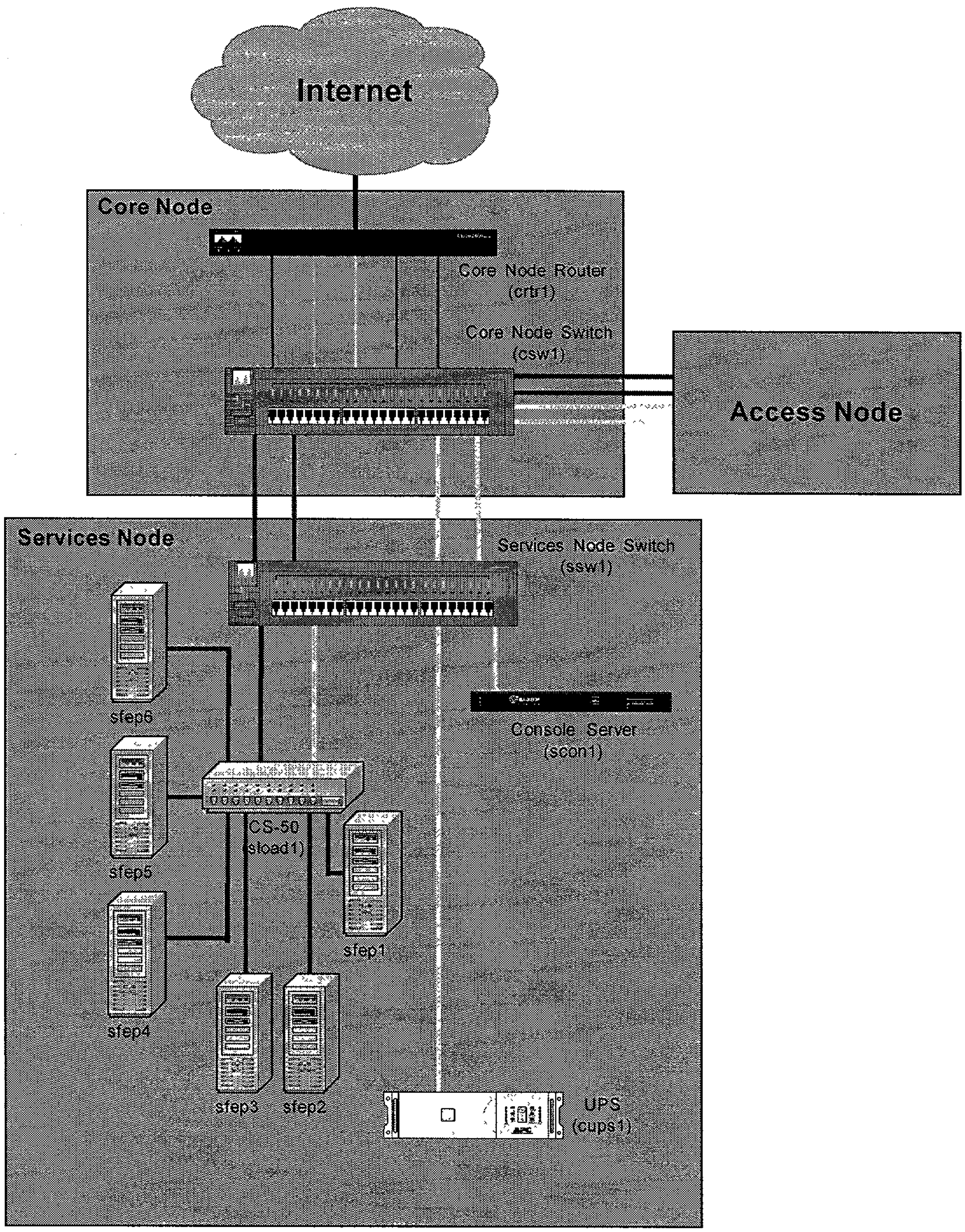


FIGURE 8



Internet
Core Node
Core Node Router
(crtr1)
Core Node Switch
(csw1)
Access Node
Services Node
Services Node Switch
(ssw1)
sfep6
sfep5
sfep4
CS-50
(sload1)
sfep1
sfep3
sfep2
Console Server
(scon1)
UPS
(cups1)

FIGURE 9

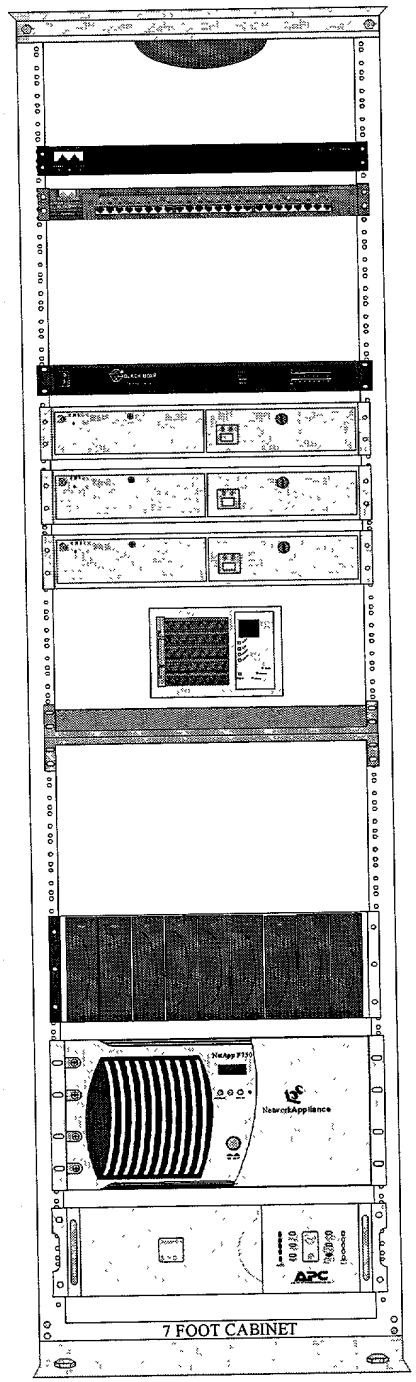


FIGURE 10

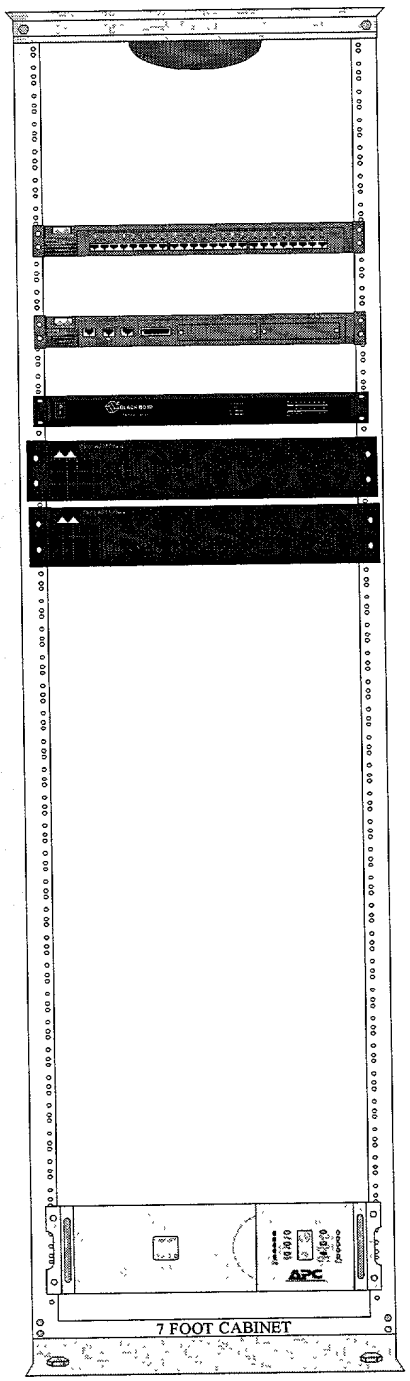


FIGURE 11